

Work Order ID 75965

75965

~~U/R~~

Page 1

November-02-11 10:42:36 AM

Item ID: D3391-025

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Aft Tube Assembly

Start Date: 02/11/2011 Start Qty: 1.00

1

Cust Item ID:

Required Date: 16/11/2011 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: M.C.J

Date: 11/11/02

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3391	Rev H U/R/ DEO								
100	MORI SEIKI CNC LATHE LARGE	0.00							
100									
Mori Seiki	Memo	0.00							
Mori Seiki CNC Lathe Large	Turn as per Folio FA599 Rev: <u>I</u> & Dwg D3391 Rev: <u>I</u>								
	scribe batch # on fwd end at 90 degree								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
110									
QC	Memo	0.00							
Quality Control									
111	QC8- inspect parts - second check	0.00							
111									
QC	Memo	0.00							
Quality Control									

1.0
mm 11/11/14
1.0
mm 11/11/14
1.0
mm 11-11-21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Quality Control

W/O:		WORK ORDER CHANGES					
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Item Name: Aft Tube Assembly

Start Date: 02/11/2011 Start Qty: 1.00

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Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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150

0.00

150

Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Drill (PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

Handwritten: 11-11-22 (X1)

160

0.00

160

BENDING MACHINE - SKIDTUBES

CNC Bend 1

Memo

0.00

CNC Delta 100 Bender

Form as per Dwg D3391 Using Bend Prog 3391025

Handwritten: 11-11-22 (X1)

170

0.00

170

QC5- Inspect part completeness to step on W/O

QC

Memo

0.00

Quality Control

Handwritten: 11-11-23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Work Order ID 75965

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November-02-11 10:42:36 AM

Item ID: **D3391-025**
 Revision ID:
 Item Name: Aft Tube Assembly
 Start Date: 02/11/2011 Start Qty: 1.00
 Required Date: 16/11/2011 Req'd Qty: 1.00
 Reference:

Accept

N900040100

Setup Start ***NS1***
 Stop ***NS2***

Cust Item ID:
 Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***
 Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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180

180

Skidtubes

Skidtubes

Skidtubes

Memo

0.00

0.00

1-Open Aft cap pilot hole to .208" as per Dwg D3391

2-Drill float bag holes using DT8809 as per Dwg D3391(Holes marked "A" Only)

3-Drill wearplate holes as per Dwg D3391 using DT8878(Mid Tube) & DT8217 Wearplate Jig

*****Do Not Open To Finished Size*****

4-Drill Wearshoe holes as per-DWG D3391 using DT8939 locating from 2 previously drilled aft wearplate holes.

5-Open wearplate holes to 0.250" and c'bore as per dwg D3391

6-Open up all wearshoe wearplate to 0.297"and float bag holes to 0.328" as per Dwg D3391.

7-Deburr

OK 11/11/23

OK 11/11/24

OK 11/11/24

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Work Order ID 75965***75965***

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Item ID: D3391-025

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N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Aft Tube Assembly

Start Date: 02/11/2011 Start Qty: 1.00

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Cust Item ID:

Required Date: 16/11/2011 Req'd Qty: 1.00

1

Customer:




Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190 *190* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00							 11-11-24
200 *200* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00							 11-11-24
210 *210* QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00							 11-11-24

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N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 02/11/2011 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 16/11/2011 **Req'd Qty:** 1.00 *** 1 ***

Customer:

Reference:

Approvals: _____ **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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220		0.00	
220	Skidtubes		
Skidtubes	Memo	0.00	
Skidtubes	Instal spacers as per dwg D3391 A/R Magnabond 6398 Batch: <u>112870</u> exp. date : <u>02/12.</u> cure time 12hrs as per QSI0015		<div style="border-top: 1px solid black; width: 100px; margin: 0 auto;"></div> <u>11/11/24</u>

230	QC5- Inspect part completeness to step on W/O	0.00	
230		0.00	<i>Schulz</i>
QC	Memo		<i>(40)</i>
Quality Control			

235	Pressure Wash per QSI005 4.3	0.00	
235			
HandFinish	Memo	0.00	1 BL 11-11-29.
Hand Finishing	AND REALODINE AS PER PAR09-043		

W/O:		WORK ORDER CHANGES					
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Sikaflex expiry date: 17 6 1

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 Revision ID: Stop ***NS2***
 Item Name: Aft Tube Assembly
 Start Date: 02/11/2011 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 16/11/2011 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270 *270* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00				<u>W</u>	<u>11</u>	<u>12</u>	<u>01</u> ①
280 *280* Packaging Packaging	Identify as per dwg & Stock Location: <u>w/o</u> Memo	0.00 0.00				<u>1</u>	<u>q</u>	<u>11/12/10</u>	
290 *290* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00						<u>11/12/5</u>	<u>JD</u>

11-12-02
①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Picklist Print

November-02-11 10:42:41 AM

Page 1

Work Order ID: 75965

75965

Parent Item: D3391-025

D3391-025

Parent Item Name: Aft Tube Assembly

Start Date: 02/11/2011

Required Date: 16/11/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev B 06-02-07 ECN773 dwg rev. D EC
 IPP Rev:C 06-03-28 Update Manuf. Instructions JLM
 IPP rev D 07.03.20 revF dwg EC
 IPP rev E 07.11.07 rev G dwg ecn 1053p EC verified by: DD
 IPP Rev:F 07-11-13 ECN 1056 DD verified by: EC
 IPP Rev:G 08-09-10 revH as per dwg DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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D6014-090		Manufactured	No			100	Each	23.0000	1	1			
D6014-090											**		
ALUMINUM EXTRUSION													

Location	Loc Qty	Loc Code
LG	23	
(66179)	23	

D3670-4-200		Manufactured	No			230	Each	128.0000	4	4			
D3670-4-200											**		

SPACER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						</
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MM 11/11/09

Dr.
11/11/24

4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

November-02-11 10:42:41 AM

Work Order ID: 75965

75965

Parent Item: D3391-025

D3391-025

Parent Item Name: Aft Tube Assembly

Start Date: 02/11/2011

Required Date: 16/11/2011

Start Qty: 1.00

Required Qty: 1.00

D2646 Manufactured No

270 Each 73.0000 1 1

D2646

Aft Cap

**

B73825 (x1) M 11/12/01

Location Loc Qty Loc Code

FP002 56

73294 56

FP004 5

68280 5

FP006 5

62678 5

FP-4 3

70945 1

71070 2

fp5 4

71038 4

D3537-1 Manufactured No

270 Each 108.0000 1 1

D3537-1

Wearpad

**

B76217 (x1) M 11/12/01

Location Loc Qty Loc Code

FP002 101

74436 70

74597 31

FP017 7

69817 5

70686 2

D4095 - 049

P. 11.12.01

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

November-02-11 10:42:41 AM

Page 3

Work Order ID: 75965

75965

Parent Item: D3391-025

D3391-025

Parent Item Name: Aft Tube Assembly

Start Date: 02/11/2011

Required Date: 16/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3537-7

Manufactured No

270

Each

9.0000

1

1

~~*D3537-7*~~

Wearpad

**

B 76208 (x1) 11/12/01

D 4095-047

11/12/01

Location

Loc Qty

Loc Code

FP

4

71689

4

FP017

5

71689

5

D3553-1

Manufactured No

270

Each

37.0000

1

1

~~*D3553-1*~~

Gasket

N/A

**

11/12/01

Location

Loc Qty

Loc Code

FP013

37

56568

2

73155

35

D3553-3

Manufactured No

270

Each

22.0000

1

1

~~*D3553-3*~~

Gasket

N/A

**

11/12/01

Location

Loc Qty

Loc Code

FP

20

31631

20

FP013

2

53480

2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

November-02-11 10:42:41 AM

Work Order ID: 75965

75965

Parent Item: D3391-025

D3391-025

Parent Item Name: Aft Tube Assembly

Start Date: 02/11/2011

Required Date: 16/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3672-1

Manufactured No

270

Each

696.0000

2

2

D3672-1

Phenolic Washer

**

11/12/01

Location

Loc Qty

Loc Code

FP-A

432

52505

0

66821

432

X2

ST074

264

72229

264

ALS4-1032-130

Purchased

No

260

Each

2,279.000

14

14

AI S4-1032-130

Insert

**

11/19/30 (x14) 11/12/01

ALS4-1032-130

Location

Loc Qty

Loc Code

ST280

2000

119084

2000

ST281

279

117717

2

118237

12

118312

2

118386

263

ALS4-1032-225

Purchased

No

270

Each

2,422.000

12

12

AI S4-1032-225

Insert

**

11/12/01

Location

Loc Qty

Loc Code

ST281

2422

108696

502

110768

62

118386

858

118966

1000

X12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

November-02-11 10:42:41 AM

Work Order ID: 75965

75965

Parent Item: D3391-025

D3391-025

Parent Item Name: Aft Tube Assembly

Start Date: 02/11/2011

Required Date: 16/11/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C4A	Purchased	No	270	Each	2,385.000	6	6	
AN3C4A								
BOLT								
								** <u>u 11/2/01</u>

Location	Loc Qty	Loc Code
ST350	2385	
117313	2	
117688	5	
117872	22	
118112	16	
118451	2	
118706	364	
118838	974	
<u>119328</u>	1000	

AN3C5A	Purchased	No	270	Each	1,131.000	4	4	
AN3C5A								
Bolt								
								** <u>u 11/2/01</u>

Location	Loc Qty	Loc Code
FP-A	7	
115835	7	
ST350	1124	
116419	28	
117343	17	
117764	166	
117872	2	
<u>118451</u>	411	
119127	500	

AN960C10L	<u>NAS1149C0332</u>	Purchased	No	270	Each	0.0000	10	10	
*AN960C10I *									
washer									
									** <u>1119736 (x12) u 11/2/01</u>

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 75965
Description: Float Skidtube (412)		Part Number: D3391-3
Inspection Dwg: D3391 Rev: H		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

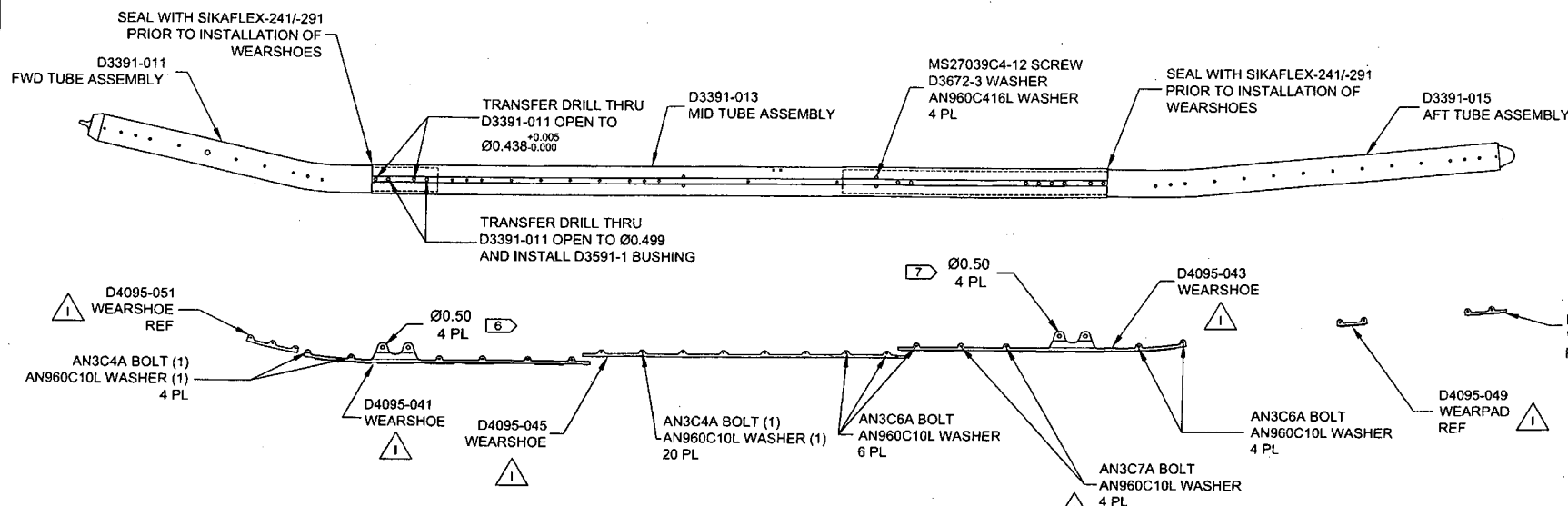
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
14.000	+/-0.010	14.000	✓		tape	mm. l - 02
3.500	+/-0.010	3.500	✓		vern	cwc-08
88.93	+/-0.030	88.930	✓		tape	mm. l - 02
Ø3.200	+/-0.010	3.203	✓		vern	cwc-08
88.93	+/-0.030	88.930	✓		tape	mm. l - 02
Ø3.750	+/-0.010	3.750	✓		vern	cwc-08
30° x 160° chamfer	+/-0.010	30x160	✓		ll	

Measured by: JMM-L	Date: 11/11/10
Audited by: RQ	Date: 11-11-21

HAAS Section						
1.526	+0.000/-0.030	1.505	✓			
7.500	+/-0.010	7.500	✓			
27.750	+/-0.010	27.750	✓			
31.750	+/-0.010	31.750	✓			
35.250	+/-0.010	35.250	✓			
3.300	+/-0.010	3.305	✓			
0.200	+/-0.010	0.200	✓			
3.520	+/-0.010	3.525	✓			
0.687	+0.010/-0.000	0.690	✓			
R0.062	+/-0.010	0.062	✓			
Ø0.484	+0.005/-0.001	0.484	✓			

Measured by: RQ	Date: 11/11/19
Audited by: RQ	Date: 11-11-21

Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM	
B	06.06.19	Dwg revision update	KJ/JLM	
C	07.04.20	Ø0.208 dimension removed	KJ/JLM	
D	07.09.06	0.400 dimension removed	KJ/JLM	
E	07.11.23	Dwg Rev. updated	KJ/EC/DD	
F	09.04.27	Dimensions updated per Rev H and NCR09-028	KJ/JLM	
G	09.11.16	Dimension 0.200 removed	KJ	
H	11.06.21	Dimension 44.995 removed	KJ	



SHOP COPY **D3391-041 ASSEMBLY**
 RETURN TO
 ENGINEERING
 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 NO. 75965 M.C.J
11/11/07

D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY -041	PART NUMBER	DESCRIPTION
X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
2	D3591-1	BUSHING
4	D3672-3	WASHER
1	D4095-041	WEARSHOE
1	D4095-043	WEARSHOE
1	D4095-045	WEARSHOE
1	D4095-047	WEARSHOE
1	D4095-049	WEARPAD
1	D4095-051	WEARSHOE
24	AN3C4A	BOLT
10	AN3C6A	BOLT
4	AN3C7A	BOLT
38	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON"
AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES
FOR WEARSHOE INSERTS. CBORE AS NOTED AND INSTALL INSERTS EXCEPT
WHERE INDICATED.
- 6) FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH
APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND
TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-041
- 7) FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH
THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND
TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-043

RELEASED
 2011-11-04
 ECN# 4-662

I	REMOVE GASKETS AND REPLACE ALL WEARSHOES; PARTS LIST UPDATE, ZN A8-1, ZN A8-2, ZN A6-4, ZN B6-8; LPS-3 COATING REMOVED FROM NOTE 2, ZN A3-1, ZN A3-2, REMOVED INSERT AELS-1032-130, ZN B6-4, B2-4, C7-8, C3-8; REMOVED HOLES, ZN D6-4 ZN D2-4, ZN D7-8, ZN D3-8	XDF	11.10.13
H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING, ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING, ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	XDF	KENT, WA	
CHECKED		DRAWING NO.	REV. 1
MFG. APPR.		D3391	SHEET 1 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	11.10.13	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

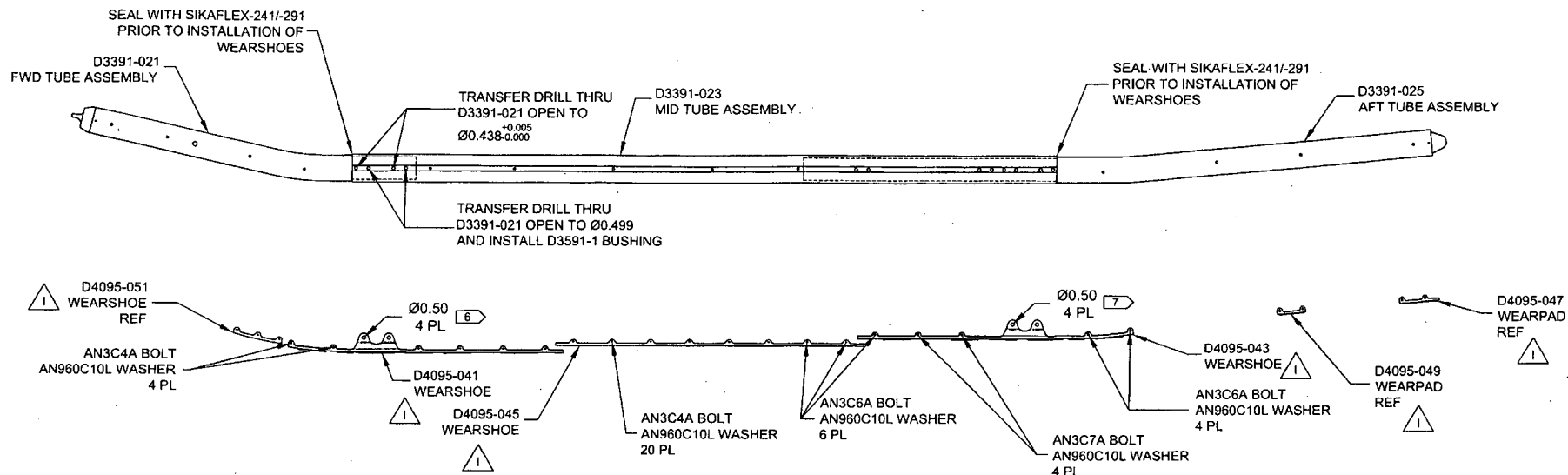
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

75965



D3391-043 ASSEMBLY

D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
X	D3391-043	FLOAT SKIDTUBE ASSEMBLY
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-023	MID TUBE ASSEMBLY
1	D3391-025	AFT TUBE ASSEMBLY
2	D3591-1	BUSHING
1	D4095-041	WEARSHOE
1	D4095-043	WEARSHOE
1	D4095-045	WEARSHOE
1	D4095-047	WEARSHOE
1	D4095-049	WEARSHOE
1	D4095-051	WEARSHOE
24	AN3C4A	BOLT
10	AN3C6A	BOLT
4	AN3C7A	BOLT
38	AN960C10L	WASHER

GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.
- 6) FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-041
- 7) FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-043

RELEASED
2011-11-04

DART AEROSPACE USA, INC			
DESIGN		PH	KENT, WA
DRAWN		XDF	
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE		11.10.13	
DRAWING NO.		D3391	REV. 1
TITLE		412 FLOAT SKIDTUBE	SHEET 2 OF 8
			SCALE
			NTS

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

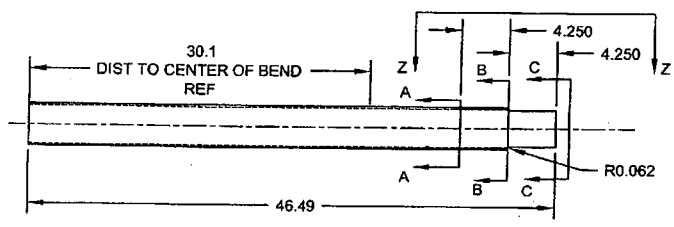
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

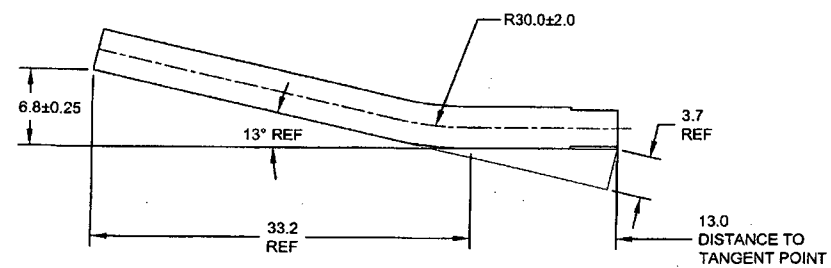
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

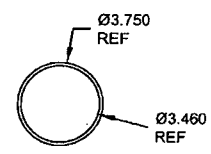
75965



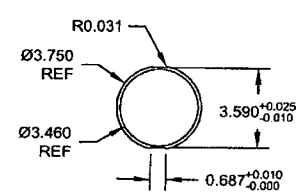
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



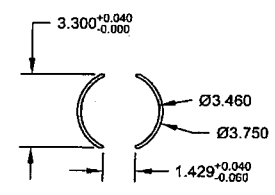
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



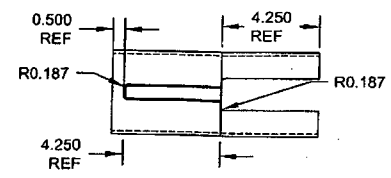
SECTION A-A
SCALE 2X



SECTION B-B
SCALE 2X



SECTION C-C
SCALE 2X



VIEW Z-Z
SCALE 2X

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2011-11-04

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	XDF	KENT, WA	
CHECKED		DRAWING NO.	REV. I
MFG. APPR.		D3391	SHEET 3 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

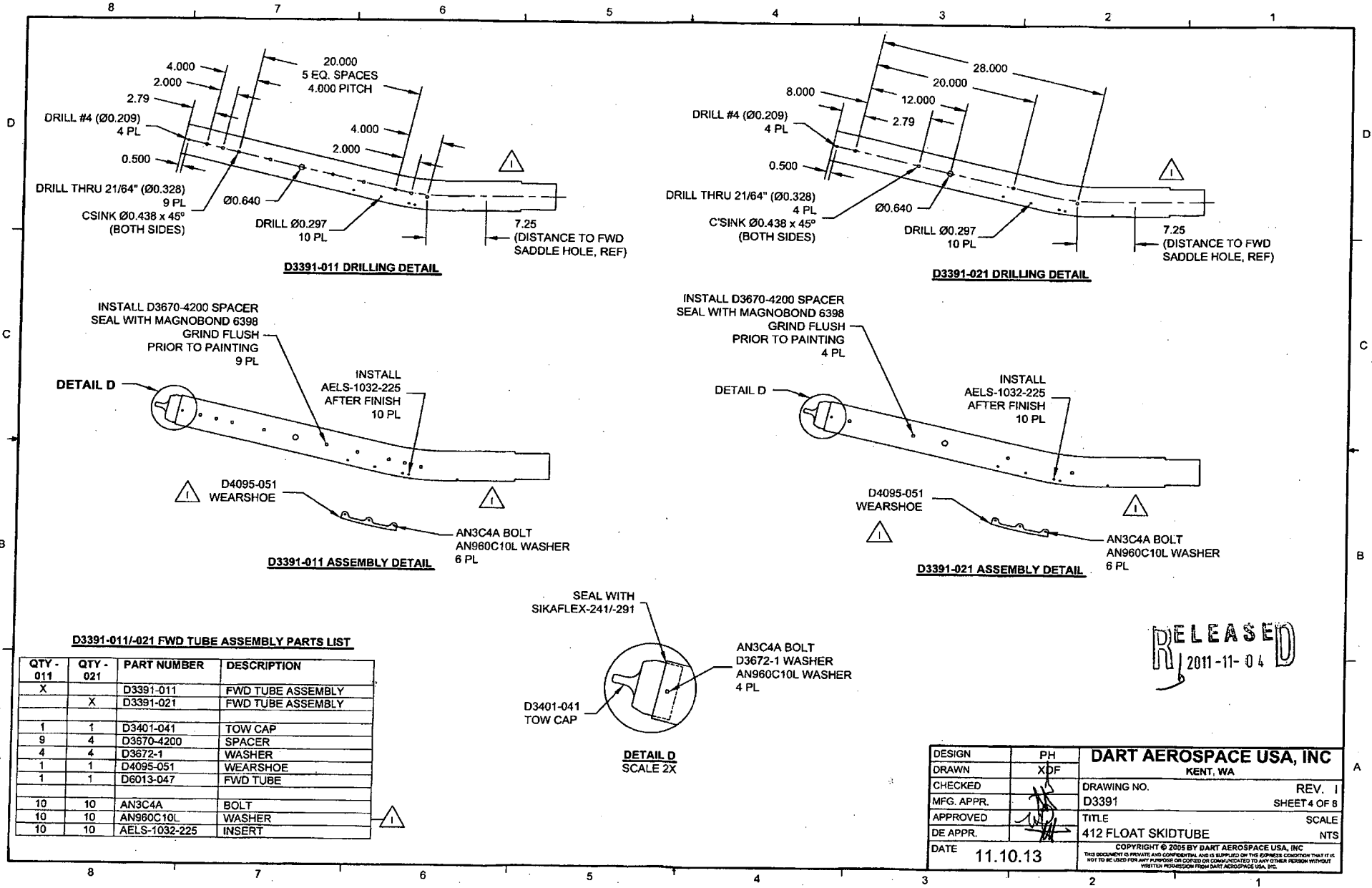
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____





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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

75965



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2011-11-04

DESIGN	PH	DART AEROSPACE USA, INC KENT, WA	
DRAWN	XDF		
CHECKED		DRAWING NO. D3391	REV. 1 SHEET 4 OF 8
MFG. APPR.		TITLE 412 FLOAT SKIDTUBE	SCALE NTS
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DE APPR.			
DATE	11.10.13		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

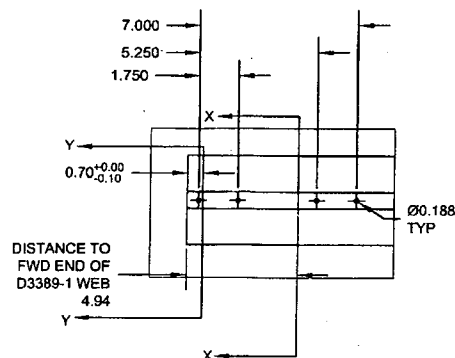
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

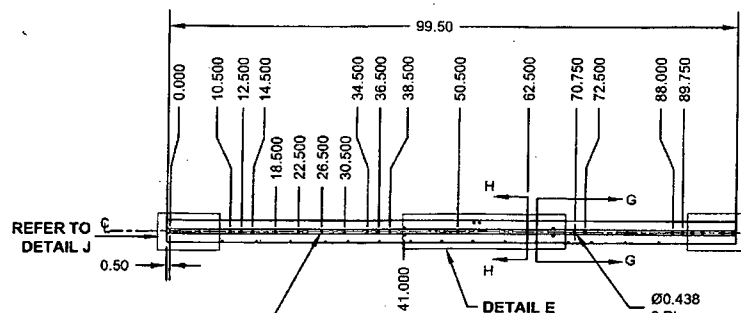
NOTE: Date & initial all entries

75965

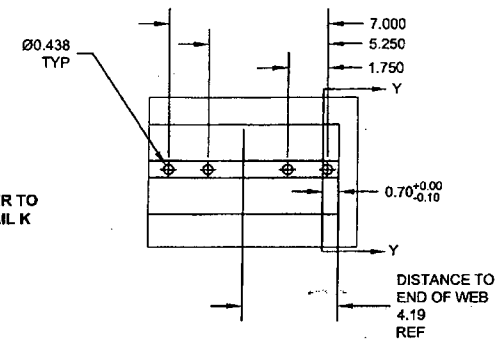


DETAIL J
SCALE 4X

DRILL THRU 21/64" (Ø0.328)
CSINK Ø0.438 X 45° (BOTH SIDES)
12 PL



D3391-013 ASSEMBLY DETAIL

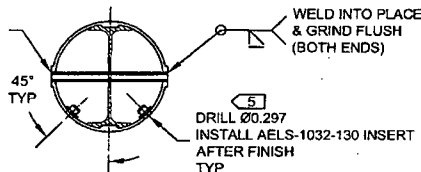


DETAIL K
SCALE 4X

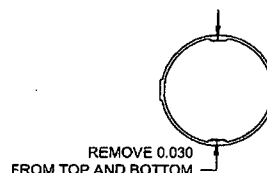


SECTION G-G
SCALE 5X

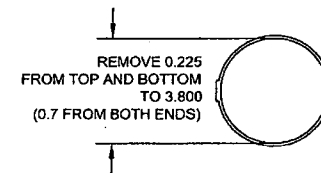
INSTALL
D3681-1 SPACER



SECTION H-H
SCALE 5X



SECTION X-X
SCALE 5X

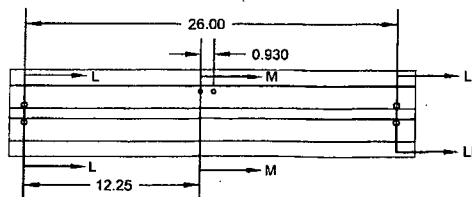


SECTION Y-Y
SCALE 5X

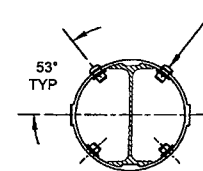
DRILL Ø0.297
INSTALL AELS-1032-130 INSERT
MS27039C1-09 SCREW
D3672-1 WASHER
AN960C10L WASHER
AFTER FINISH
4 PL

D3391-013 MID TUBE ASSEMBLY PARTS LIST

QTY -013	PART NUMBER	DESCRIPTION
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW



DETAIL E
SCALE NONE

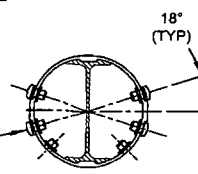


SECTION M-M
SCALE 5X

DRILL Ø0.250
4 PL

SECTION LL-LL
SCALE 5X

DRILL Ø0.391
INSTALL ALS4-428-165 INSERT
MS27039C4-08 SCREW
D3672-3 WASHER
AN960C416L WASHER
AFTER FINISH
4 PL



SECTION L-L
SCALE 5X

D3391-013 MID TUBE ASSEMBLY

- MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- WELDING: PER DART QSI 004

RELEASED
11/2011-11-04

DESIGN	PH	DART AEROSPACE USA, INC
DRAWN	XDF	KENT, WA
CHECKED		DRAWING NO. REV. I
MFG. APPR.		D3391 SHEET 5 OF 8
APPROVED		TITLE SCALE
DE APPR.		412 FLOAT SKIDTUBE NTS
DATE	11.10.13	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

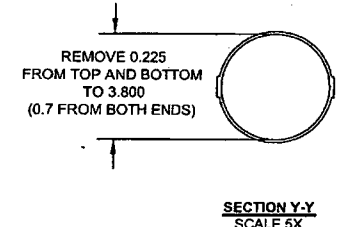
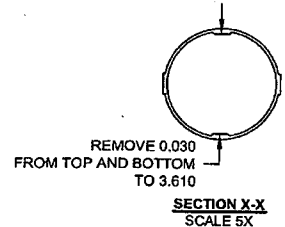
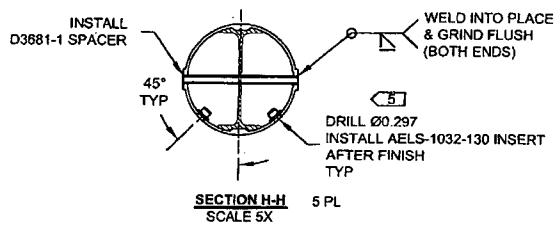
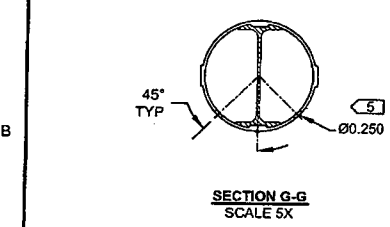
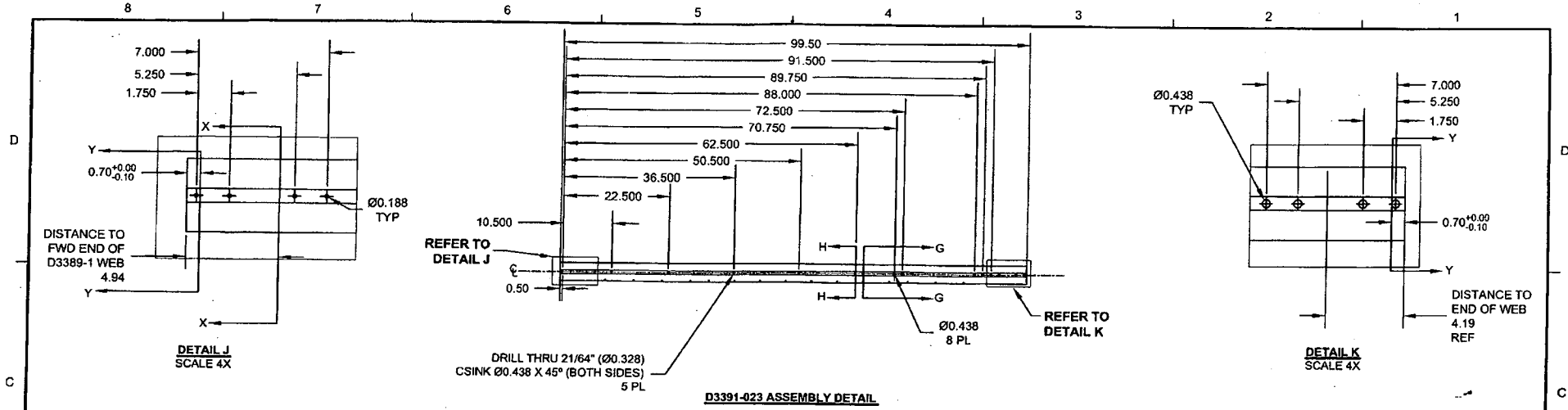
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

75965



D3391-023 MID TUBE ASSEMBLY PARTS LIST

QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

- D3391-023 MID TUBE ASSEMBLY**
- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
 - 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
 - 3) WELDING: PER DART QSI 004

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2011-11-04

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

VIEW BB-BB
SCALE 4X

R0.188
1.526 REF
0.200 REF

DETAIL S

AA AA
BB BB
N N
P P
Q Q
R R
36.435 TO TAPER
MACHINE CONSTANT TAPER FROM Ø3.750 TO Ø3.200
43.3 REF DIST TO CENTER OF BEND
88.93

DETAIL V
SCALE 6X

0.400
CHAMFER 30°X0.060 DEEP
DRILL #4 (Ø0.209) 2 PL

D3391-3 AFT DRILLING AND CUTTING DETAIL
(MAKE FROM D6014-090 SKIDTUBE MATERIAL)

SECTION AA-AA
SCALE 6X

1.526^{+0.000}/_{-0.030}
3.300
Ø3.500
Ø3.750 REF

SECTION N-N
SCALE 6X

0.200
3.300
Ø3.000 REF
Ø3.750 REF

SECTION P-P
SCALE 6X

0.687^{+0.010}/_{-0.000}
3.520
Ø3.000 REF
R0.062
Ø3.750 REF

SECTION Q-Q
SCALE 6X

Ø3.000 REF
Ø3.750 REF

SECTION R-R
SCALE 6X

Ø3.000 REF
Ø3.200

DETAILS
SCALE 4X

W W
R0.062
1.750
1.750
Ø0.484 16 PL
5.250
7.000

VIEW W-W
SCALE 4X

0.500 REF
R0.188
0.013
R0.094

RELEASED
2011-11-04

DESIGN	RH	DART AEROSPACE USA, INC KENT, WA
DRAWN	XDF	
CHECKED		
MFG. APPR.		
APPROVED		
DE APPR.		DRAWING NO. D3391
DATE	11.10.13	TITLE 412 FLOAT SKIDTUBE
		REV. I SHEET 7 OF 8
		SCALE NTS

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

D3391-015 BENDING AND DRILLING DETAIL
(SEE CBORE DETAIL BELOW)

INSTALL D3670-4200 SPACER
SEAL WITH MAGNOBOND 6398
GRIND FLUSH
PRIOR TO PAINTING
14 PL

D3391-015 ASSEMBLY AND CBORE DETAIL
(SEE TABLE)

D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST

QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X		D3391-015	AFT TUBE ASSEMBLY
	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D2646	AFT CAP
14	4	D3670-4200	SPACER
2	2	D3672-1	WASHER
1	1	D4095-049	WEARPAD
1	1	D4095-047	WEARPAD
1	1	D6014-090	AFT TUBE
14	14	AELS-1032-130	INSERT
8	8	AELS-1032-225	INSERT
4	4	ALS4-428-165	INSERT
6	6	AN3C4A	BOLT
4	4	AN3C5A	BOLT
10	10	AN960C10L	WASHER

**CBORE HOLES MARKED CB1-CB4 AS FOLLOWS AND
INSTALL AELS-1032-XXX AFTER FINISH AS NOTED**

HOLES MARKED	QTY D3391-015	QTY D3391-025	CBORE	P/N
CB1	8	8	Ø0.430 X 0.170	AELS-1032-225
CB2	4	4	Ø0.430 X 0.170	AELS-1032-130
CB3	6	6	Ø0.430 X 0.040	AELS-1032-130
CB4	4	4	NONE	AELS-1032-130

D3391-025 BENDING AND DRILLING DETAIL
(SEE CBORE DETAIL BELOW)

INSTALL D3670-4200 SPACER
SEAL WITH MAGNOBOND 6398
GRIND FLUSH
PRIOR TO PAINTING
4 PL

D3391-025 ASSEMBLY AND CBORE DETAIL
(SEE TABLE)

RELEASED
2011-11-04

DART AEROSPACE USA, INC
KENT, WA

DRAWING NO. D3391
TITLE 412 FLOAT SKIDTUBE
DATE 11.10.13

REV. 1
SHEET 8 OF 8
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries